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Carlos Santiago-Caballero

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Keywords: social mobility, inequality, industrialisation, globalisation

JEL Classification: D63, N33, N93, 014

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Abstract

The central decades of the nineteenth century were a key period for the economic development of Spain. An increasing industrial sector, unprecedented economic growth, rising domestic and international economic integration, the creation of modern communication and transport networks and radical institutional reforms. However, our knowledge of the economic history of those key years is far from been perfect. This paper attempts to shed some light on this fundamental period of the economic history of Spain by looking at an almost unexplored field in premodern Spain, the changes in social mobility using an extensive sample of marriage records from the region of Valencia, one of the main economies of the country. During the period under analysis, Valencia followed a particular path of growth based on agrarian capitalism focused on international markets. Our results suggest that social mobility improved between 1840 and 1850 but that the situation quickly reversed during the following decades. The opportunities offered to individuals raised by poorer families in agriculture and manufacturing disappeared, and by 1870, Valencia was a much less mobile society. The analysis of the determinants of upward mobility suggests that in a society where education was directly correlated with the income of the household, the status of the family was a key factor improving the mobility of the upper social classes and limiting that of the lower. Inequality also played a role and more equal locations improved the chances of upward mobility, supporting the idea of the Great Gatsby curve. By 1870 Valencia had become a polarised society, where the benefits of the rising domestic integration and globalisation were enjoyed by a small elite, while the lowest part of the income distribution suffered increasing pauperisation.

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1. Introduction

The central decades of the nineteenth century were a key period for the economic history of Spain. Up to then, never before in Spanish history had GDP per capita increased more rapidly than during the decades that followed the end of the Napoleonic invasion. The growth was also transmitted to wages that grew quickly between 1810 and 1860, while total factor productivity in agriculture also showed an intense growth and the terms of trade with key economies like Britain improved (Alvarez-Nogal and Prados de la Escosura, 2013 and Prados de la Escosura, 1994). The take-off of the Spanish economy continued during the second half of the nineteenth century, when the economy achieved per capita growth rates that would not be reached again until the roaring twenties. Between 1850 and 1883 Spain grew as quickly as Britain, three times faster than Italy and more rapidly than France and Germany. The country experienced a rapid transformation into a modern economy with the rise of the industrial sector whose productivity boomed and that by 1870 represented 20 per cent of total output (Prados de la Escosura, 2017). The modernisation also included the creation of key infrastructures like the railroad and telegraph networks that allowed the creation of a unified internal market (Peña and Sánchez-Albornoz, 1984). Spain also experienced sustained political changes influenced by the liberal revolutions that improved the quality of its institutions (Prados de la Escosura and Santiago-Caballero, 2018).

However, we know little about what happened with relevant variables like economic inequality and much less about socio-economic mobility during the nineteenth century. Prados de la Escosura (2008) and Alvarez-Nogal and Prados de la Escosura (2013) estimated the levels of economic inequality in Spain using information related to wages and land rents. Roses et al. (2010) used information at provincial level to calculate the changes in regional inequality between 1860 and 1900 while Beltran Tapia and Martinez-Galarraga (2015) computed provincial estimations of inequality using the Williamson Index for 1860 and 1900. The results in all the cases seem to suggest an upswing of inequality in Spain since the 1860s that continued at least until 1900.

The lack of studies on pre-industrial intergenerational mobility are mainly consequence of the scarce information available to carry them out. Miles, A. (1999) and Mitch (1993) used marriage records to study the mobility between generations in Britain finding relative low mobility, as around two thirds of the grooms married had the same occupational status as their fathers. Their results, and particularly their source, was criticized by Long (2013) and Long, and Ferrie (2013) who saw it as unrepresentative for recording only Anglican marriages and for the data not been adjusted by the life cycle. Their results found surprisingly high levels of mobility in Britain and particularly in the US during the second half of the nineteenth century. Boberg-Fazlic and Sharp (2012) found relative stability of social mobility in England but also regional differences with higher levels in the north than in the south. Clark and Cummins (2014) showed that wealth was persistent in England not only between relatively close generations, but also in the very long term. In the case of Spain, the lack of information explains why most of the available literature on intergenerational mobility is focused on more recent times. In 1976, Aranda Aznar carried out a study of social mobility in Spain in the 1970s. He concluded that the sons of non-agrarian workers or middle ranked agrarian workers showed lower levels of mobility. Rodriguez Menés (1993) concluded that during the second half of the twentieth century social mobility in Spain increased very rapidly. Pumares Fernandez et al. (2006) showed that between 1995 and 2014 immigrants who arrived to Spain were able to improve their mobility, although still at lower rates tan Spanish nationals. Bernardi (2007) argued that the mobility experienced by youngsters in the 1970s was higher than that of their counterparts of the twenty first century. Finally, (Martín et al, 2012) showed that the mobility of the poorest social classes in Spain was lower than in other western European countries.

Valencia was one of the main regions of Spain and by 1860 represented eight per cent of the Spanish population and 8.4 per cent of its GDP.[2] As the rest of the country, Valencia also suffered important economic changes. Although the region was not able to industrialise as quickly as Catalonia or the Basque Country did, its agrarian sector became an engine of growth thanks to its increasing economic integration with the national and especially the international markets. According to Furió, the years between 1840 and 1875 mark the final triumph of agrarian capitalism in Valencia, with the creation of an efficient primary sector oriented to trade (Furio, 1995:475). This paper will attempt to estimate the effects that this quick economic transformation in Valencia had on the social stratification of its population. The first section of the paper will present the first civil registry created in Spain as the main source of our study and the information extracted from it. We will later describe the different methodologies used to estimate the levels of socio-economic mobility and the operationalisation of the source. Section three will present the results obtained and section four will analyse the determinants of upward mobility. We will later discuss the implications of the results and finish with a summary of the main conclusions.

Figure 1: geographical location of Valencia

2. Source and data

Being able to estimate and control the changes in the population of the country, was seen as a key objective for the Spanish governments that took office in the decades following the end of the Napoleonic invasion. Until then, little had been done by the civil authorities to establish a systematic and generalized civil registry, having to rely mainly on the information provided by the church on births, deaths and marriages to estimate demographic changes in the short term. The Spanish politicians that were influenced by the liberal principles understood that the government could not rely on ecclesiastical authorities to provide this information, and therefore pushed for the creation of a registry controlled by the civil administration. The decree of the 3rd of February 1823 was an

[2] Estimations using the regional GDP figures from Roses et al. (2010:249) and population figures from Junta General de Estadística (1863)

attempt to create a civil registry of births, deaths and marriages that should have taken place controlled by the local authorities.

"There will be a registry in the administration office of every local council of those born, dead and married in the municipality … keeping it under proper custody." (Decreto de XLV de 3 de febrero para el gobierno económico-político de las provincias, 1823)

However, the decree was a complete failure in all the country with very few exceptions and the registry was not implemented. The despair of the government was clear in the new attempt that took place in 1841 with the decree on the 24th of January that in his argumentation complained that the registry ordered in 1823 had only been created in Madrid and few other locations. (Decreto de 24 de enero, 1841). This new decree was determined to the establishment of the civil registry learning from the problems observed in the implementation of the previous one. One of the most important differences appeared in the extension of the order, that in this case was limited to the provincial capitals, heads of the judiciary districts and those municipalities with more than 500 families or roughly 2,000 inhabitants. The reason to limit the extension of the registry were mainly economical, as the government understood that small locations would not have the resources to pay for it. However, given the importance to rely on independent demographic information, the authorities pushed forward with a smaller sample hoping that it would be the foundation for the complete extension of the registry in the whole country. In order to guarantee the reliability of the data, the decree also gave special orders to the ecclesiastical authorities that could not baptise or bury any citizen without the approval of the registry, while they also had to communicate in less than 24 hours any marriage taken place in their parish. To incentivize the success of the registry, the decree also included penalties for those who did not strictly follow the orders, including the local priests:

"The secretaries and majors of the town hall will be in charge of the punctuality and reliability of the civil registry. The omission of a record and the lack of care recording them will be punished by the political authorities with fines proportional to the quality of the transgression…" (Decreto de 24 de enero para la creación de un registro civil. Art. 7, 1841)

"Concerning the faults made by the local priests baptising or burying without the previous authorisation of the civil registry, or for the delay or inaccuracy of the information that they have to give to the same registry, the majors should notify to the political authorities who according to the severity of the fault will impose the corresponding fines…" (Decreto de 24 de enero para la creación de un registro civil. Art. 8, 1841)

Therefore, the decree was designed not only to make sure that the local authorities could not deny its creation on the basis of economic constraints, but also provided the incentives to guarantee that all the agents involved on its creation and maintenance carried out their obligations. Studies comparing the registry with the records kept by the church seem to confirm its reliability (Escandell, 1896:94). The instructions given to the town halls were also very clear in the design of the documents that should follow the templates used in the city of Madrid. This is a key point for our research, as this means that the registry offers us a standardized source that can be systematically collected, processed, analysed and compared in all the Spanish territory.

The story of the civil registry created in 1841 came to an end in 1870, with the provisional law 2/1870 on June 17th. The law created a new administrative framework for the civil registry that passed to be under control of the courts of justice and that was extended to all the territory without any minimum population requirement. The law was also a response to the liberal reforms of 1869 that decreed the freedom of religion and abolished the obligation to record births, deaths and marriages

in the ecclesiastical records. The records kept by the previous registry were neglected by the new one and it was abandoned, been kept by the town halls in their archives without receiving much attention and in many cases not in the best conditions. Although the consequences of the Spanish civil war produced devastating effects in the preservation of some archives, the efficient recording and the still abundant information that has survived to our days provides a unique and underexploited source to understand a key and not very well known period in the economic history of Spain

In our case, we focus our analysis in the study of the marriage records kept by the 1841 civil registry. The records were very rich in content and included information related to the socio-economic status of two generations that could be used to estimate the levels of intergenerational mobility. Table 1 shows an example of the information contained in the templates that were used in all the country.

Table 1: information recorded for marriages

GROOM	NAME	**GROOM'S PARENTS**	NAME FATHER
	PLACE OF BIRTH AND PROVINCE		PLACE OF BIRTH AND PROVINCE
	AGE		PROFESSION
	MARITAL STATUS		NAME OF MOTHER
	PROFESSION		PLACE OF BIRTH AND PROVINCE
BRIDE	NAME	**BRIDE'S PARENTS**	NAME FATHER
	PLACE OF BIRTH AND PROVINCE		PROFESSION
	AGE		PLACE OF BIRTH AND PROVINCE
	MARITAL STATUS		NAME OF MOTHER
COUPLE	ADDRESS WHERE THEY LIVE		PLACE OF BIRTH AND PROVINCE

As we can see, the record included key information about the couple but also about the parents, been the most important field for our study the profession of the groom and his father. The connection between the status of the father and the son reflected by their occupations will be the basis of our study on intergenerational mobility. We also collected the profession of the bride's father, the ages of the couple, the province where they were born, and also the provinces of origin of their parents. As we will see later, this information will be important to calibrate our results and will provide significant insight into the dynamics behind our estimations.

We were able to find information from seven locations in a sample that includes cities like Valencia, the capital of the region that also became the third largest city of Spain during the period under analysis. Our sample also includes middle size cities with a clear urban character like Alicante, large municipalities mainly rural but also a significant urban economy, large municipalities whose economies were clearly rural and also smaller rural locations. Although our sample is geographically biased towards the provinces of Alicante and Valencia, our interest in the urban/rural character to calibrate a regional sample does not affect its creation. We were able to gather around 7,300 marriage records with information for over 40,000 individuals around four benchmark years; 1840, 1850, 1860 and 1870. [3]

[3] The geographical distribution, economic categorization, years, number of records and the criteria used to calibrate the regional sample are presented in the appendix.

3. The measurement of intergenerational mobility

The methodology used to measure intergenerational mobility is heavily influenced by the information that we have to estimate it. One of the possibilities that has also been used in the study of mobility in the long term is the use of mobility tables where both son and father are grouped into different groups according to their incomes or socio-economic status, ordered from higher to lower incomes/status. Although descriptive in their nature, mobility tables have been widely used as they offer a detailed examination of the stratification of a society that cannot be directly observed by other methods, like identifying the movements that are taking place and changing mobility levels (Hauser, 1978). Defining the groups and the professions that each of them contain is a key decision that could also affect the results. In our case we decided to follow a categorisation similar to Miles (1992) and Long (2013), something that will also allow us to compare our estimations with their results for England in the same period of time. The five groups identified and some examples of the professions included in brackets are:

1. Professional (Clergy, High-wage government officials, capitalists)
2. Intermediate (Clerks, teachers, commerce)
3. Skilled (Textile workers, artisans)
4. Semiskilled (Miners)
5. Unskilled (Unskilled rural workers, servants)

The classification assumes that those professions included in group 1 represent the top socio-economic class, following a descending order where group 5 represents the bottom. Therefore, we can create a table with the distribution of all our observations depending on the social class of the son and that of his father, as shown in Table 2 where we present a table with 764 cases.

Table 2: example of mobility table

	Father's class					
Son's class	**1, PROFESSIONAL**	**2. INTERMEDIATE**	**3. SKILLED**	**4. SEMISKILLED**	**5. UNSKILLED**	**TOTAL**
1, PROFESSIONAL	49	24	9	2	2	86
2. INTERMEDIATE	13	97	13	3	8	134
3. SKILLED	16	103	128	12	54	313
4. SEMISKILLED	1	11	13	16	13	54
5. UNSKILLED	4	63	15	2	93	177
TOTAL	83	298	178	35	170	**764**

As we can see from the table, most of the sons whose fathers were part of group 5 (Unskilled), also tend to fall within the same category, more precisely 93 out of 170. In the same way, most of the sons whose fathers were members of group 1 (Professional) also tend to fall within the same class (49 out of 83). We can therefore create a mobility table where we show by father's class, the percentage of the sons that fall in each one of the five groups as shown in Table 3. All the sons that fall in the same class as his father will be located in the shaded diagonal, those who show upward mobility will be located above the diagonal, while those under it will represent cases of downward mobility.

Table 3: example of transition matrix

	Father's class				
Son's class	**1, PROFESSIONAL**	**2. INTERMEDIATE**	**3. SKILLED**	**4. SEMISKILLED**	**5. UNSKILLED**
1, PROFESSIONAL	59	8	6	5	1
2. INTERMEDIATE	16	32	7	9	5
3. SKILLED	19	35	72	34	31
4. SEMISKILLED	1	4	7	46	8
5. UNSKILLED	5	21	8	6	55
TOTAL	100,0%	100,0%	100,0%	100,0%	100,0%

A different way of measuring intergenerational mobility is the estimation of the elasticity between the income/status of the father and that of the son. The method follows a linear regression model like the one presented in equation 1 where Y_{Son} represents the income/status of the son and Y_{father} the income/status of the father.

$$\ln(Y_{Son}) = \alpha + \beta \ln(Y_{father}) + \varepsilon \qquad (1)$$

The value of beta would capture the persistence, taking the value 0 in the case of absolute mobility and 1 in the complete absence of it. A beta of 0.4 would indicate that forty per cent of the income/status of the fathers is directly transferred to the next generation. The model can be improved to take into account life cycles, or in other words the possibility that sons have of improving their status during their lives. The use of marriage records and even modern statistical sources can be problematic, as the age of the son at the time of the recording and therefore of the comparison tends to be much lower than the age of the father, leading to a potential underestimation of mobility. For that reason, a way of taking into account that we are not comparing the status of the son and the father at the same age and for that reason the life cycle bias, we can also include in the regression the age and the age squared of the son as controls as shown in equation 2.

$$\ln(Y_{Son}) = \alpha + \beta_1 \ln(Y_{father}) + \beta_2 AGE + \beta_3 AGE^2 + \varepsilon \qquad (2)$$

However, in order to estimate elasticities we need to transform the qualitative information provided by the professions into a quantitative and continuous unit. We decided to use a version of the Standard International Occupational Prestige Scale established by Treiman (1977) updated in in Ganzeboom and Treiman (1996). The SIOPS is considered a universal index that can be used for any place and period of time, as Treiman found that prestige hierarchies were invariant though space and time (Hout and DiPetre, 2006:2). The scale has actually been used to support the validity of different estimators of social prestige in the past like HISCAM, showing indeed a very high correlation between both indexes (Lambert et al., 2013:86). Table 2 shows the descriptive statistics of the index for the five social classes defined above.

Table 4: SIOPS Score by social class

	Mean	Std. Dev	Min	Max
1, Professional	70	10	50	80
2. Intermediate	47	11	31	73
3. Skilled	41	7	29	57
4. Semiskilled	31	6	18	40
5. Unskilled	23	5	17	32

Finally, a third approach to measure intergenerational mobility is the use of logistic regressions. Logistic regressions can be a good alternative if we want to analyse the mobility within a certain part of the distribution. With the logistic regression we measure the expected probability that a son with a father belonging to class X has to fall in the same class (or in any other) compared to the sons whose fathers belong to a different one. The concept is similar to the mobility tables, and in this case and like in the case of the estimation of the elasticities also allows us to control for life cycles including the age of the son as control variable. Using a logistical model, the dependent variable takes a dichotomous form like for instance if the son belongs or not to a certain social class. In the example presented in equation 3, the dependent variable Y would be if the son belongs or not to class A while as independent variables (X_i) we can include information like the class of the father, the son's age or any other control variables.

$$ln\left(\frac{P(Y)}{1-P(Y)}\right) = b_0 + b_1X_1 + b_2X_2 + \dots b_nX_n + \varepsilon \qquad (3)$$

The three methods presented above have their own positive and negative sides. Mobility tables are a good way of estimating mobility in the presence of non-linear changes, and also allow us to differentiate between upward and downward mobility. The lack of persistence identified by other methods can be consequence of a general improvement (mostly upward mobility) or a social pauperisation (downward mobility), a fact that could not be captured by techniques like the estimation of elasticities. On the other hand, the fact that the tables are truncated in both ends could also lead to an underestimation of mobility (Moonen and Van den Brakel, 2011). The three methods are therefore complementary and their combined analysis will give us a better understanding of the dynamics behind the potential changes in mobility.

4. Results

After the creation of a representative sample for the whole region, we proceeded to estimate the mobility tables for the four benchmarks that we defined, 1840, 1850, 1860 and 1870. The results are presented in Tables 5-8. We observe that although they change over time, the average levels of persistence (observations that fall within the main diagonal) are very high, particularly for those sons coming from a humble social background (Class 5. Unskilled). The lack of intergenerational mobility was also high in the other classes, although lower in the case of those with a higher social background mainly consequence of the fact that they experienced higher downward mobility.[4]

[4] As we explained before, this is in part consequence of the truncation of the tables in its upper (and also lower) limit that overestimates downward and underestimates upward mobility for this group.

Table 5: transition matrix in Valencia, 1840

	Father's class				
	1, Professional	2. Intermediate	3. Skilled	4. Semiskilled	5. Unskilled
Son's class	%				
1. Professional	53	1	2	1	0
2. Intermediate	6	79	11	5	2
3. Skilled	13	5	77	9	7
4. Semiskilled	7	1	8	72	2
5. Unskilled	21	14	2	13	89

Source: civil registry as indicated in the appendix.

Table 6: transition matrix in Valencia. 1850

	Father's class				
	1. Professional	2. Intermediate	3. Skilled	4. Semiskilled	5. Unskilled
Son's class					
1. Professional	88	2	1	1	0
2. Intermediate	7	78	1	2	9
3. Skilled	3	5	84	12	6
4. Semiskilled	2	2	8	82	7
5. Unskilled	0	13	6	3	78

Source: civil registry as indicated in the appendix.

Table 7: transition matrix in Valencia. 1860

	Father's class				
	1. Professional	2. Intermediate	3. Skilled	4. Semiskilled	5. Unskilled
Son's class					
1. Professional	59	1	2	0	0
2. Intermediate	25	68	2	2	3
3. Skilled	9	10	83	12	2
4. Semiskilled	4	3	6	68	3
5. Unskilled	3	19	7	18	92

Source: civil registry as indicated in the appendix.

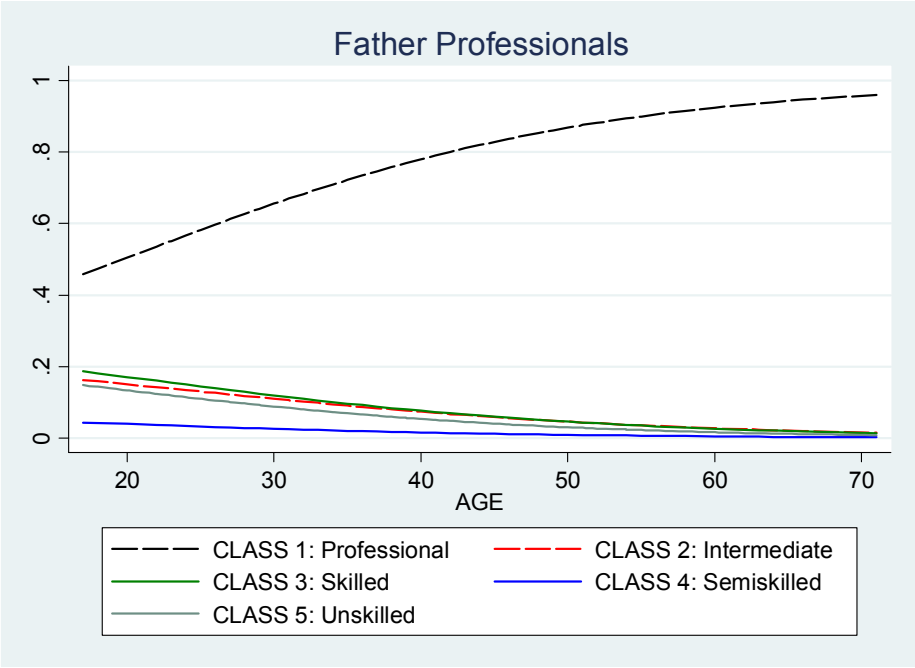
Table 8: transition matrix in Valencia. 1870

	Father's class				
	1. Professional	2. Intermediate	3. Skilled	4. Semiskilled	5. Unskilled
Son's class					
1. Professional	62	1	1	0	0
2. Intermediate	5	64	2	4	5
3. Skilled	18	10	82	4	5
4. Semiskilled	1	2	11	55	1
5. Unskilled	12	23	4	37	89

Source: civil registry as indicated in the appendix.

One of the problems with the use of marriage records to measure mobility is the fact that we are comparing the social status of the son at an early stage of his life cycle with the status of the father with an older age. This means that we do not take into account that sons could improve their status over time, and that this sort of "first job" that we are comparing is underestimating their real mobility. We checked if that was the case creating a mobility table for the whole period for a sample of grooms aged at least 35, and observed in fact that the levels of mobility were higher, especially in the upper part of the social distribution consequence of a reduction in downward mobility.[5] We decided to further explore the effect of age in the predicted probabilities presented in the mobility tables using a multinomial logistic regression were we regressed the status of the father on the status of the son using the five social classes defined before. We included the age and the age squared of the groom as controls and then estimated the predicted probabilities that a groom grown in a certain social class had of falling in the different groups depending on his age for the whole period. Although we only report in the text the results for backgrounds in class 1 and 5, the rest can be found in the appendix.

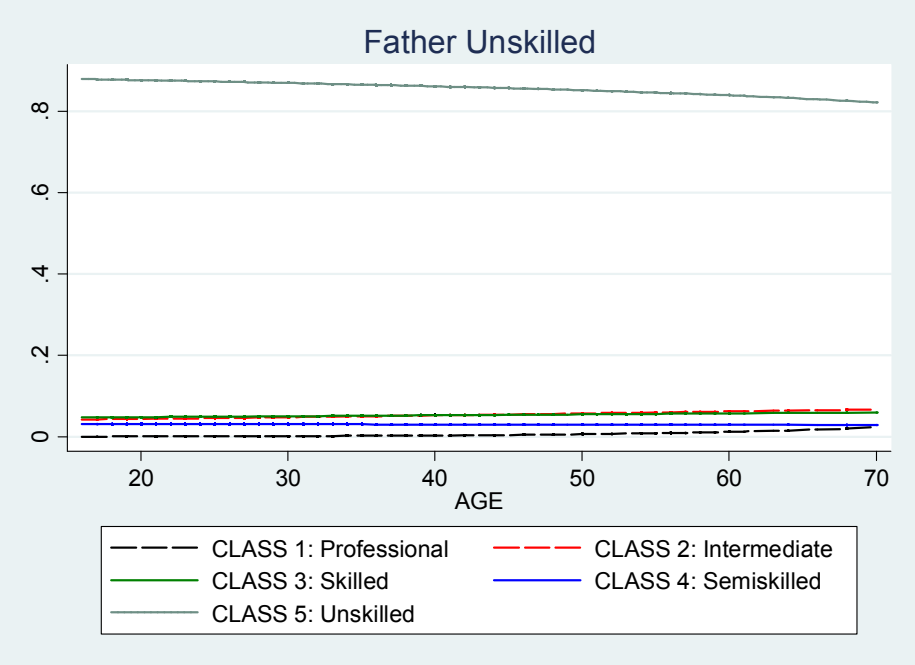
Figure 2: predicted probabilities for sons with Class 1 (Professionals) background by age



Source: civil registry as indicated in the appendix.

[5] See table 17 in the appendix. The results are consistent with those obtained by Long (2013)

Figure 3: predicted probabilities for sons with Class 5 (Unskilled) background by age

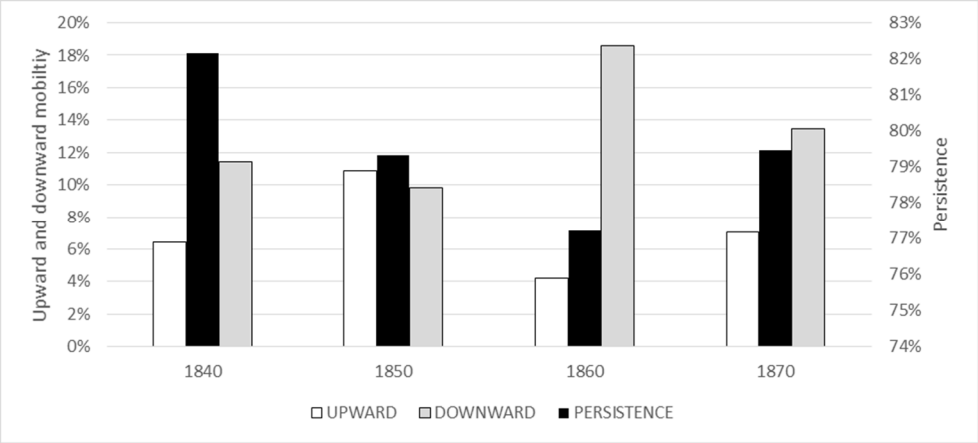


Source: civil registry as indicated in the appendix.

The results show that age did play a significant role in the case of the sons coming from the upper part of the distribution, as they paid a penalty at the beginning but recovered very quickly the status of their parents as they got older. At age 42, 80 per cent of the sons born in families of class 1 had achieved the same status as their parents. The results are less optimistic for the sons raised in poorer families. Although we also observe an improvement in the situation with a reduction of the probabilities of falling in the same class as their parents, the reduction is much smaller and even at age 70, more than 80 per cent of them had not been able to climb up in the social ladder.

Although mobility tables are good for seen where upward and downward movements take place, they are difficult to study to obtain a general picture. For that reason different estimators have been proposed in the literature to synthesise their results, and are general they are based on studying the sum of the probabilities in the main diagonal as an estimator of persistence and those falling outside as an estimation of mobility. As it was explained before, those cells falling on top of the diagonal will represent upward mobility, while those falling under it represent downward mobility. Adding all the calls in each category will give us an idea of the levels of persistence, upward and downward mobility in each decade as presented in Figure 4.

Figure 4: intergenerational mobility from transition matrices, 1840-1870



Source: civil registry as indicated in the appendix.

We can see that compared to 1850, the other three benchmarks show worse prospects for improvements. Although persistence was higher in 1840, the lower levels reached in 1860 and 1870 were mainly consequence of a significant increase in downward mobility, while upward mobility remained at relatively similar levels. 1850 however seems to be the benchmark when the possibilities for improvement were higher, as although persistence was still higher than in 1860, the levels of upward mobility were by far the largest of the period, being the only case when they were higher than the levels of downward mobility.

Another way of exploring the levels of mobility is the analysis of the elasticity between the status of the father and the status of the son. As explained before, we transformed the professions from our dataset into a quantitative continuous index of socio-economic prestige using the SIOPS scale defined in Ganzeboom and Treiman (1996). We then estimated the elasticities following Equations 1 and 2 both unadjusted and adjusted by the age of the son. We also estimated the elasticity between the index of the son and his father in law.

Table 9: status elasticity 1840

		Elasticity	Standard error	R2	F-test
Father-Son	Undjusted	0.79	0.017	0.56	0.00
	Adjusted	0.78	0.018	0.56	0.00
Father in Law-son	Undjusted	0.67	0.022	0.37	0.00
	Adjusted	0.66	0.022	0.37	0.00

Source: civil registry as indicated in the appendix.

Table 10: status elasticity 1850

		Elasticity	Standard error	R2	F-test
Father-Son	Undjusted	0.70	0.020	47	0.00
	Adjusted	0.68	0.020	47	0.00
Father in Law-son	Undjusted	0.61	0.023	36	0.00
	Adjusted	0.61	0.023	36	0.00

Source: civil registry as indicated in the appendix.

Table 11: status elasticity 1860

		Elasticity	Standard error	R2	F-test
Father-Son	Undjusted	0.73	0.018	50	0.00
	Adjusted	0.72	0.019	50	0.00
Father in Law-son	Undjusted	0.61	0.023	32	0.00
	Adjusted	0.60	0.023	32	0.00

Source: civil registry as indicated in the appendix.

Table 12: status elasticity 1870

		Elasticity	Standard error	R2	F-test
Father-Son	Undjusted	0.74	0.020	51	0.00
	Adjusted	0.73	0.020	52	0.00
Father in Law-son	Undjusted	0.62	0.023	35	0.00
	Adjusted	0.62	0.023	37	0.00

Source: civil registry as indicated in the appendix.

Table 13: status elasticity 1840-70

		Elasticity	Standard error	R2	F-test
Father-Son	Undjusted	0.73	0.009	51	0.00
	Adjusted	0.73	0.009	51	0.00
Father in Law-son	Undjusted	0.62	0.010	35	0.00
	Adjusted	0.62	0.010	35	0.00

Source: civil registry as indicated in the appendix.

Figure 5 summarises the results for the adjusted elasticity between the father and the son. The results coincide with the analysis of the mobility tables highlighting the increasing mobility that can be observed in the 1850 benchmark and also shows a high level of persistence for 1840 and lower levels for 1860 and 1870. The problem with the use of elasticities is that, as the analysis of the main diagonal in a mobility table, they simply tell us if there is an increasing or decreasing correlation between the status of father and son, but not if the higher (or lower) correlation is consequence of upward or downward mobility. The lower correlations for 1860 and 1870 are very probably consequence of the increasing downward mobility that has been presented in the mobility tables, and therefore do not imply that mobility levels were better in those years than around 1840.

Figure 5: adjusted status elasticity between father and son, 1840-70

Source: civil registry as indicated in the appendix.

The classification of the individuals in our sample in five social tables allows us comparing our results with recent studies in other countries that have followed the same methodology and stratification. However, we believe that using the SIOPS scores in our database we can re-estimate mobility levels stratifying our sample not by social class but by SIOPS levels. Although we already showed the (expected) high correlation between the social classes and SIOPS' scores, the division of the sample in a continuous variable could offer us a different and probably more precise vision.[6] We classified the individuals in our sample into four groups:

1. Wealthy: SIOPS >= 60
2. Accommodated: SIOPS 40-59
3. Medium: SIOPS 21-39
4. Poor: SIOPS <=20

The thresholds were used taking into account several facts. The lowest threshold was set taking the SIOPS score for an unskilled rural worker (20). The threshold between medium and accommodated was defined to include farmers in the later (38), while the upper threshold (60) was defined to include in the "Rich" group liberal professions and capitalists. Using the four groups and following Equation 3 we estimated a logistic regression to focus on the mobility of the poorest group in the our four benchmarks including the age of the son as control variable.

Table 14: upward mobility from poorest class (predicted probabilities in percentage)

	1840	1850	1860	1870
Poor-Rich	0.0	0.1*	1.2***	0.7***
	(0.000)	(0.001)	(0.002)	(0.001)
Poor-Accommodated	1.3***	4.3***	1.7***	3.5***
	(0.002)	(0.004)	(0.003)	(0.003)
Poor-Middle	10.7***	17.4***	6.9***	6.7***
	(0.006)	(0.008)	(0.005)	(0.004)
Poor-Poor	87.9***	78.1***	90.1***	89.1***
	(0.007)	(0.009)	(0.006)	(0.005)

Adjusted by life cycle bias.

[6] Although the means and the distribution of the SIOPS scores by social class are the expected ones, we also observe that members in upper tail of a lower social class could obtain a higher SIOPS score than an individual in the lower tail of an upper one. Using a stratification based uniquely in SIOPS score could offer us a more precise vision of the changes in mobility levels.

As table 14 shows, the expected probabilities support the results obtained before and display the existence of a clear ceiling for the members of the poorest social classes. Even in 1850 when the prospects for improving where the best, almost 80 per cent of the sons born in a poor family would remain in the same class, while moving to the upper part of the distribution seems to be an unrealistic expectation.

5. Understanding the changes in social mobility

We used the information provided in our dataset at individual and city levels to analyse the determinants that could affect the levels of upward mobility. We defined upward mobility as the difference between the SIOPS score of the father and the SIOPS score of the son, using this proxy as dependent variable.The growing literature on social mobility has stressed the importance of education as one of its main determinants.[7] In premodern societies, where the access to education was strongly correlated with the income level of the families, we could assume that the status of the family where a child is born will also be a determinant factor explaining his education and also his mobility. Therefore, we included as independent variable the SIOPS score of the father as we believe that will capture in part the education opportunities enjoyed by the son. We also included the age and age squared of the son as explanatory variables as we expect a life cycle effect to appear with the chances of moving upward increasing as does age. Inequality has also been highlighted as another important factor explaining differences in mobility.[8] Following Milanovic et al. (2007), we included the extraction ratio calculated for each location using the SIOPS score of the sons.[9] We took into account if the individual was an immigrant and depending on the specification of the model, the regions from where he came from. We also included controls for the economic sector where the son worked and the locations where he lived.

Therefore, the different models include variables related to the personal conditions of the individual, the location where he was married and, in the case of emigrants, the region from where they migrated. Table 15 shows the results for four different specifications of the model. Model I presents the baseline containing variables related to the individual like the status of the father estimated with his SIOPS score, the age of the son and the age squared, and a dummy to reflect if he was migrating from a different province. Model II adds information for his destination like dummies for the economic sector where the son worked, as well as dummies for the locations where he married. Following the connection presented in the literature between upward mobility and inequality, Model III includes the extraction ratio in the location where he married as an estimation of economic inequality. Finally, model IV adds dummies for the regions of origin in the case the individual was an emigrant. All the specifications have time controls for the four benchmarks

[7] Blanden et al. (2005) observed a decrease in the mobility in the United Kingdom arguing that the benefits of higher education were mainly reserved for the highest social classes. Causa and Johansson (2009) explained that the status of the parents had also an effect on the education of their children and therefore in their mobility. Their results suggest, like Blanden et al. (2006), that education was fundamental for the improvement in upward mobility. The improvement in mobility is also associated by authors like Rodriguez Menés (1993) with an improvement in the access to education.

[8] In a comparative study between Sweden and The United States, Björklund and Jäntti (1997) concluded that the differences in mobility could be related to the differences in inequality. Solon (2004) supported the idea the higher initial inequality levels decreased socio-economic mobility, a result similar to Andrews and Leigh (2009) who observed that those countries with lower inequality in 1970 were also those showing higher social mobility in the 1990s.

[9] We used the score of an unskilled worker (18) as the minimum.

Table 14: determinants of upward mobility

	Model I	Model II	Model III	Model IV
Father's status	**0.17*** **	**0.13*** **	**0.12*** **	**0.13*** **
	(0.02)	**(0.02)**	**(0.02)**	**(0.02)**
Age	**0.17*** **	**0.16*** **	**0.14*** **	**0.20*** **
	(0.03)	**(0.02)**	**(0.02)**	**(0.02)**
Age squared	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Emigrant	**-0.40*** **	**-0.36*** **	0.01	
	(0.02)	**(0.04)**	(0.15)	
Sectors (agriculture control)				
Industry		**2.6*** **	**2.6*** **	**2.3*** **
		(0.33)	**(0.33)**	**(0.31)**
Services		**5.7*** **	**5.9*** **	**5.7*** **
		(0.43)	**(0.44)**	**(0.41)**
Construction		**2.4*** **	**2.5*** **	**2.2*** **
		(0.65)	**(0.65)**	**(0.65)**
Military		**5.9*** **	**6.0*** **	**5.6*** **
		(1.06)	**(1.10)**	**(1.04)**
Location (Valencia control)				
Alicante		**3.5*** **	**8.1*** **	**7.2*** **
		(0.48)	**(1.76)**	**(0.67)**
Jijona		**2.3*** **	**8.3*** **	**7.8*** **
		(0.58)	**(2.15)**	**(0.41)**
Alzira		**4.7*** **	**8.9*** **	**9.0*** **
		(0.80)	**(2.45)**	**(0.46)**
Elche		**2.5*** **	**9.8*** **	**8.9*** **
		(0.69)	**(2.67)**	**(0.59)**
Orihuela		**4.1*** **	**10.0*** **	**9.0*** **
		(0.49)	**(2.08)**	**(0.58)**
Extraction ratio			**-0.11***	**-0.06***
			(0.06)	**(0.23)**
New Castile				**2.5***
				(1.32)
Old Castile				4.7
				(3.10)
North				**3.7** **
				(1.76)
Andalusia				-0.5
				(0.85)
Aragon				1.6
				(1.40)
Madrid				-1.4
				(2.78)
Mediterranean				-1.2
				(1.86)
Extremadura				0.0
				(2.69)
Year dummies	YES	YES	YES	YES
Observations	4,605	4,605	4,436	5,526
R2	0.10	0.17	0.17	0.19
F-test	0.00	0.00	0.00	0.00

Notes: *, **, and ***denote significance at 10, 5, and 1 percent levels, respectively. Robust standard errors.

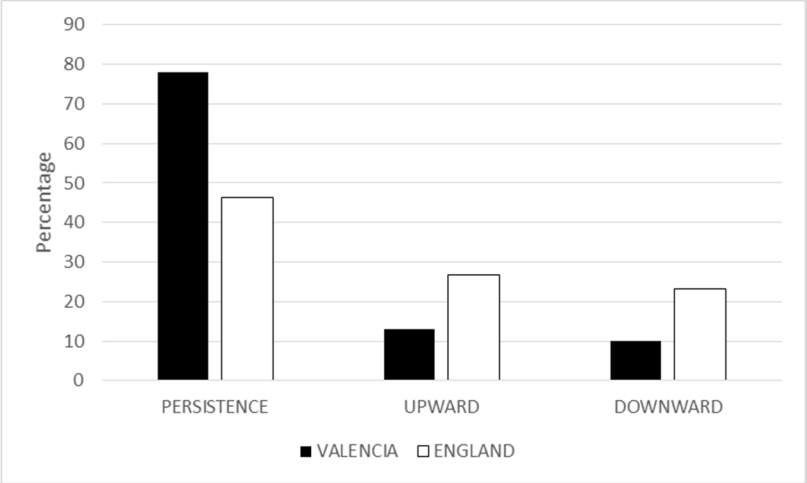
The results indicate that the status of the father was a significant factor improving upward mobility. In principle and given the construction of our dependant variable (status father – status son) we would expect a negative correlation finding the opposite. The fact that the effect is larger as the status of the father increases, shows that sons raised in the upper part of the distribution enjoyed a clear advantage not only to maintain their status, but also to improve it. As previous results also showed, this suggests the existence of a poverty trap and we believe that is also associated with a more limited access to education for the poorer families at a time when universal affordable education was unconceivable. The impulse received from education to climb up the social ladder was therefore restricted to the upper social classes. As expected, the age of the son was also significant and positive showing the existence of improvements during the life cycle while emigrants experienced a lower mobility than locals. The sectorial analysis shows that compared to agriculture (control) sons working in industry and services did better improving their status, although it was in services and the military where the possibilities to improve were larger. All the location dummies were largely significant and positive. Taking into account that the city of Valencia was used as control, this means that its citizens paid an important prize in terms of lower upward mobility. The extraction ratio is also significant and negative, indicating that inequality did also play a role and that locations with lower inequality levels were those were individuals had better prospects of improving. The role of inequality supports the concept of the Great Gatsby curve that suggests a negative correlation between upper social mobility and inequality. Finally, the inclusion of the regional dummies for emigrants shows that emigrants arriving from New Castile and especially from the regions in the north achieved higher levels of upward mobility.

The estimation of the standardized regression coefficients, shows that the age and the status of the father have similar importance in mobility. Increasing one standard deviation the age of the son increases upward mobility by 0.18 standard deviations while the same change in the SIOPS score of the father would lead to an increase in upward mobility by 0.2 standard deviations, holding the rest of the variables constant. The son of a father in the top of the social scale could experience an upward mobility four points higher than the son of a father in the bottom. Taking into account that the average SIOPS score during the whole period for the sample of sons is around 33.7, the impact would be significant.

6. Discussion

Our results suggest that the levels of social mobility in Valencia between 1840 and 1870 were relatively low. But, how low? How do these estimations compare to similar studies in other countries? What forces are behind the increasing mobility that we observe in 1850 and the quick setback that followed during the next twenty years? Figure 6 compares the levels of persistence, upward and downward mobility calculated by Long (2013) for England and our estimations for Valencia. As the data for England are adjusted by life cycle, we compared the results with our estimations for grooms over 35 years.

Figure 6: mobility estimations for England (1851-81) and Valencia (1840-70)



Source: for England Long (2013) for Valencia own estimations from marriage records (see appendix)

Valencia clearly presents a higher persistence that almost doubles the levels in England, where mobility both upward and downward was also higher. We believe that one of the main differences relies on the different economic structure in both places. The role of the manufacturing and services sector was far more important in England at the time than it was in Valencia, providing an opportunity for upward mobility for the sons born in the lowest social classes.

Explaining the dynamics of social mobility in Valencia in our different benchmark years will also help us to understand the increasing rigidity of the Valencian society. Our different estimations of mobility show an improvement between 1840 and 1850, when persistence and downward mobility decreased while upward mobility rose. A detailed analysis of the microdata reveals that an important part of the improvement was based on changes in the lowest part of the distribution, where sons of unskilled rural workers were able to became farmers and also found jobs in the manufacturing sector, mainly in large cities like Alicante but also in smaller towns like Elche. We can therefore observe two different forces increasing upward mobility, one led by agriculture and a second one by the manufacturing sector.

Concerning the role of agriculture to increase upward mobility, we should firstly understand how the descendants of landless rural workers were able to have access to land and what changed between 1840 and 1850. The answer relies on the Spanish confiscation of land carried out by the central government, in this case the seizure led by Mendizabal, the Prime Minister who in 1836 confiscated the lands in the hands of the church. The confiscation of 1836 is a well-studied event in Spanish economic history and supposed a massive transfer of property from the hands of church to private buyers. Although the confiscation happened in 1836, it was not until years later that most of the sales took place. As in the case of Spain, in Valencia and neighbouring regions like Murcia, most of the sales took place in the 1840s, a delay that especially affected to rural properties (Blasco, 1978:143; Villabona Blanco, 1993:132). Partially as consequence of the confiscation, the land under cultivation doubled between 1834-48 and 1866-90 (Furio, 1995:475).

There is a general consensus around the idea that the effect of the transfer of properties from the church to private investors in Valencia produced a concentration of land in the hands of a smaller number of big landowners. However, it is also true that the sale allowed the increase in the number of small and middle size farmers, and also that the process presents geographical differences, being the concentration more intense around the large cities like Valencia (Furio, 1995:472-73). Our data

show that the ratio between unskilled rural workers and farmers increased more rapidly in Valencia and its hinterland than in the rest of the locations, supporting the idea that the concentration of properties around the capital was particularly intense. Places like Cullera in Valencia, experienced the same concentration of land but was also able to maintain an increasing number of small farmers (Romero and Cucó, 1979:63). However, although we observe an improvement in upward mobility for the poorest social classes thanks to a better access to land in 1850, our records also confirm that this situation was exceptional and temporary. In 1860 and 1870 this improvement in upward mobility from rural areas not only disappeared, but reversed, explaining part of the increase in regional downward mobility in 1860 and 1870 and the rising polarization within the rural economy.

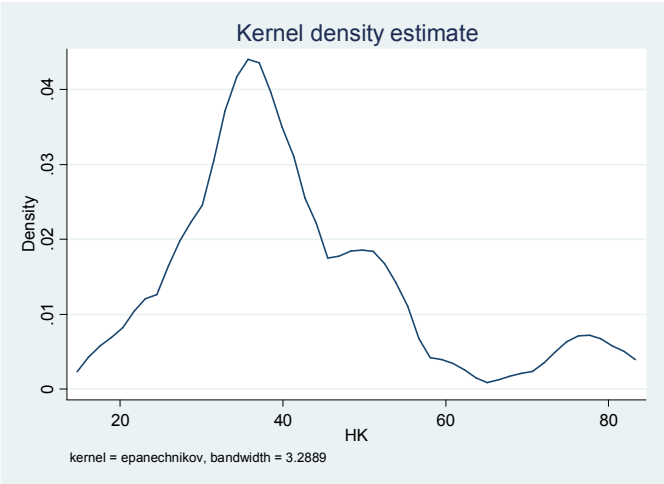
Our data allowed us to compare the changes in the composition of the agrarian sector over time not only within the sons, but also within the previous generation by studying the professions of their fathers. However, while in the case of the sons the ratio unskilled rural worker/farmer increased by 89 per cent between 1840 and 1870, the same ratio taking into account their fathers increased by just 17 per cent. We can therefore conclude that that the growth in the agrarian sector that took place did involve a concentration in the hands of a smaller number of owners, as the professions occupied by new entrants (sons) during the process show. The barriers that they faced increased the number of unskilled workers at the expense of farmer, while the process affected less to the previous generation that showed a higher resistance. This also meant an increasing division of the rural world between a growing number of unskilled workers and a relatively smaller but still important number of farmers. The polarization was accompanied by a decrease in living standards, as the rise of infant mortality rates in rural areas of Alicante show (Reher at al. 1996). The confiscated land was in part acquired by the upper social classes of the large cities like Valencia, creating a new elite of rich large landowners. The reforms of the liberal governments had also eliminated institutional rigidities that acted as a break for the development of an efficient agriculture. This new commercial and agrarian bourgeoisie was the main beneficiary of the domestic and international economic integration, specialised in the exploitation of an intensive market-oriented agriculture.

The second source for increasing mobility in 1850 with respect to 1840, was the movement of individuals from unskilled rural families to the manufacturing sector. Did the sector offer better opportunities in 1850? If we divide the professions in our sample for the four benchmarks by economic sector and use it as an estimation of labour shares, we observe that the share of workers in the secondary sector in the region increased between 1840 and 1850 as did the share in the tertiary sector, in both cases from around 10 of the total labour force in 1840 to 15 per cent in 1850. The secondary sector increased in Valencia but also in smaller towns like Alzira, Elche or Orihuela. Therefore, the upward mobility that we observe in 1850 from unskilled rural families to the manufacturing sector is also supported by a growing sector in the region. However, and as in the case of the opportunities in agriculture, this new chance to climb up the social ladder was exceptional and disappeared by 1860. Our estimation of labour shares once again confirm the reversal of the situation, as after peaking in 1850, the share of the secondary sector decreased in 1860 to 1840 levels and fell even more by 1870, a decrease that also took place in the tertiary sector. Palafox (1984:302) showed that even between 1860 and 1887, few areas of Valencia experienced a decrease in the share of labour employed in agriculture. One of the reasons for this de-industrialisation was the collapse of the silk industry in Valencia, one of the main manufacturing centres in the region. Our estimations show the complete collapse of the textile industry in the capital between 1850 and 1860 that continued in 1870, when our estimations of the labour share of the sector in the economy halved, a decrease that was even larger in the case of the artisans employed in the silk industry.

The study of the city of Valencia and the changes within it are a good example of the polarization that took place in the region and that was particularly intense between 1850 and 1870. While part of its population composed by landowners, merchants and liberal professionals took advantage of trade opportunities, the arrival of poor migrants from the region and the pauperization of the lowest social classes reached unsustainable levels that even lead to civil unrest. Furio describes the situation as a rapid advance in polarization where, at the same time that a small elite was been created, an increasing number of people remaining at subsistence levels was living in the city (Furio, 1995:494). Studies using anthropometric measures also show an unequal social impact during the first years of industrialisation (Puche and Cañabate-Cabezuelos, 2016:139). Do our data support the polarization in the city of Valencia described by Furio? Figure 7 shows the kernel distributions of the males who married in the city of Valencia in the benchmarks 1850 and 1870.

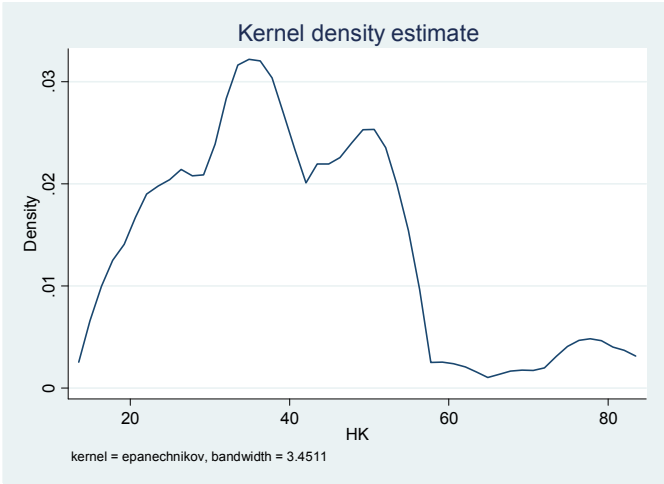
Figure 7: kernel distributions of SIOP's scores for males married in Valencia, 1850 and 1870

1850



Source: civil registry, city of Valencia.

1870



Source: civil registry, city of Valencia.

As we can see, the story of polarization presented by the literature is supported by our data. While in 1850 the distribution was clearly centred on a single peak with a SIOP's score close to 40, in 1870 we observe a more polarised distribution with the emergence of a growing lower class with scores around 20 and the increase in the share of individuals with a score around 50. A closer look to the professions in 1870 shows that those joining the lower part of the distribution were mainly unskilled workers, who trebled their share compared to 1850, and servants who almost doubled their share in the sample. On the other hand, professions related to trade increased by 60 per cent and were in large part responsible of the growth in the upper part of the distribution. We can therefore understand the large penalty showed in our models on upward mobility than grooms married and living in the capital had to pay, as the chances for upward mobility offered by the city to those with humble backgrounds were increasingly scarce. Worsening living conditions were also observed in the rest of the region, like in Elche where Martinez Carrión and Perez Castejón found trends in living conditions that match our estimations for the same town, worsening as inequality increased (1998:217).

Summarizing, the same forces that allowed an increase in upward social mobility in 1850 were very quickly reversed in the following decades, leading to an intense process of polarisation that intensified by 1870. The accumulation of land in the hands of large landowners in the countryside polarized the rural economy between a growing number of unskilled workers and proportionally

smaller number of farmers. In the urban economy the industrial development between 1840 and 1850 reversed quickly, and also fostered the polarization between a pauperized lower class and a rising upper class that benefited from a dynamic agriculture connected to domestic and international trade.

7. Conclusions

The central decades of the nineteenth century were a key period in the economic history of Spain. The modernisation of the country included rising industrialisation, quick economic growth, development of transport and communications technologies, increasing domestic and international economic integration and institutional reforms influenced by the liberal revolution. On the other hand, the amount of information that we have on those key decades is far from been perfect. This paper has attempted to shed some light on the period putting a special emphasis on the study of social mobility, a field practically unexplored in Spain in premodern times and also not enough covered in international terms. Using a detailed and extensive sample of marriage records in the region of Valencia, we have presented several estimations of social mobility to conclude that the region was characterised during the whole period by a high persistence. Upward and downward mobility improved between 1840 and 1850, thanks to the new opportunities that were offered to those raised in poorer families in agriculture and manufacturing. However, these opportunities quickly disappeared in the following decades as consequence of the increasing concentration of land in the rural economy and the collapse of the urban industry. The result was a decreased in upward and an increase in downward mobility, producing also a growing polarization in Valencian society between a wealthy urban and rural elite and a growing lower part of the income distribution, a process that is also supported by the available evidence in the literature.

Our results suggest that growing up in a wealthy family did not only mean that the chances of retaining that status was higher, but also that the probability of improving it was considerably higher than been raised by a poor household. In a time when access to education was directly proportional to the incomes of a family, an uneven distribution of wealth also led to an uneven access to education, a factor that according to the literature is a key factor to improve social mobility that was therefore limited for the poor. We also showed that the possibilities of improving the status through the life cycle were also much larger for those in the upper part of the distribution. Therefore, and as our results also showed, the best alternatives for upward social mobility were located in the services sector and the military, as the possibilities in agriculture and industry were limited for the reasons presented above. As predicted by the literature, inequality also played a role and those areas with lower inequality levels also presented a higher chances of moving up in the social ladder, supporting the concept of the Great Gatsby curve.

Concluding, we believe that the use of marriage records for the period 1840-1870 can provide us important insights not only on changes in social mobility, but also on key economic dynamics that were paramount to understand the modernisation of Spain. The example of Valencia also presents interesting consequences related to the increasing economic integration that Spain and the rest of the world were experiencing. Part of the agricultural sector in Valencia, under the control of large landowners, was able to take advantage of these new opportunities and oriented their production to a growing domestic and international market. On the other hand, while this new commercial and agrarian elite appeared as clear winners of the first globalisation, the children of small farmers and skilled workers were clearly the losers, suffering a lack of opportunities and increasing pauperisation that ended up with the creation of a more polarised and unequal society.

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Elche: Marriage records for the years 1841, 1850, 1860 and 1870 retrieved from: Familysearch.org.

Jijona: Marriage records for the years 1841, 1842, 1843, 1844, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869 and 1870 from the municipal historical archive of Jijona.

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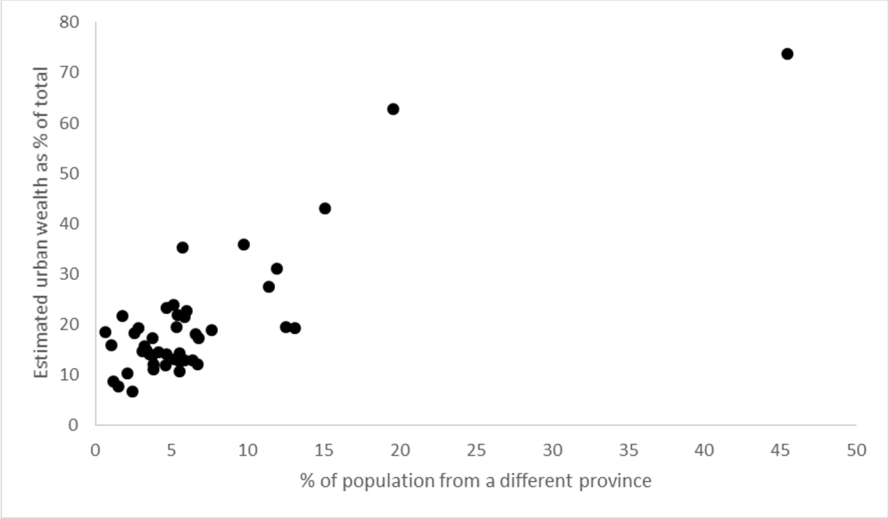
Appendix

Creation of the regional sample

In order to create a representative sample for the region of Valencia, we decided to use the percentage of population that came from a different province as proxy of the urban character of the local economy. There are good reasons to believe that those municipalities with a larger immigrant population also had a more urban economy. Figure 8 shows the relationship between urban wealth as percentage of total and the percentage of the population that migrated from a different province in 45 Spanish provinces that present a correlation of 85 per cent. Our preliminary results also support this relationship at local level, revealing a correlation of 96 per cent between the percentage of immigrant population and an estimation of the share of workers employed in the secondary and tertiary sectors.

Figure 8: urban wealth over total vs % immigrants over population



Sources: INE (1888)

Valencia and Alicante were the two largest cities of the region and also the ones that presented the largest presence of immigrant from a different province, around 15 per cent of the total population representing 13 per cent of the population of the province. We identified this group as large urban centres and were proxied by the information extracted from them. Requena, Castellón, Villena, Pueblo Nuevo del mar, Torrevieja, Alcoy and Orihuela were middle size cities also with an average percentage of immigrant population and represent 9 per cent of the population of the region. We used the information from Orihuela to estimate this group that we defined as semi-urban centres. Finally, the largest group representing 78 per cent of the population in the region was comprised by small and also some middle size municipalities with a very small proportion of immigrant population that we identified as rural areas. This group was proxied using the information from Alzira, Elche, Aspe and Jijona. The data were pooled to obtain a representative sample of the region taking into account the weights in population. Four benchmarks were created around the years 1840, 1850, 1860 and 1870 with the records presented in table 16.

Table 15: largest municipalities in Valencia and percentage of immigrant population

NOMBRE	POBLACION	EMIGRANTES	
VALENCIA	***143.861***	***16%***	**URBAN**
ALICANTE	***34.926***	***15%***	
REQUENA	13.527	9%	**SEMI-URBAN**
CASTELLON	23.393	8%	
VILLENA	11.424	8%	
PUEBLO NUEVO DEL MAR	10.493	7%	
TORREVIEJA	8.165	6%	
ALCOY	32.497	6%	
ORIHUELA	***24.300***	***4%***	
PINOSO	5.703	3%	**RURAL**
SUECA	13.386	3%	
ALZIRA	***16.146***	***2%***	
NOVELDA	8.802	2%	
ONTENIENTE	11.727	2%	
XATIVA	14.534	2%	
VILLAJOYOSA	9.321	2%	
ASPE	***7.176***	***2%***	
BURRIANA	10.058	2%	
ALTEA	5.869	2%	
JAVEA	6.331	2%	
CARCAGENTE	12.102	2%	
PEGO	6.069	1%	
VILLARREAL	12.887	1%	
ELCHE	***19.636***	***1%***	
MONOVAR	8.615	1%	
JIJONA	***6.287***	***1%***	
CULLERA	11.049	1%	
COMUNIDAD VALENCIANA	1.373.707	4%	

Notes: sample used to estimate each group in bold italics.
Source: Junta General de Estadística (1888)

Table 16: years of marriages civil records included by location and benchmark

	1840	1850	1860	1870
ALICANTE	1843	1850	1860	1869
ALZIRA	1841	1850	1860	1866
	1842			1867
ELCHE	1841	1850	1860	1870
JIJONA	1841	1847	1859	1865
	1842	1848	1860	1866
	1843	1849	1861	1867
	1844	1850	1862	1868
		1851	1863	1869
		1852	1864	1870
		1853		
		1854		
ORIHUELA	1841	1849	1860	1870
		1850		1871
VALENCIA	1841	1848	1860	1868
		1849		

Table 17: number of marriage records by location and benchmark

	1840	1850	1860	1870
ALICANTE	176	158	270	51
ALZIRA	230	92	141	287
ELCHE	157	91	211	157
JIJONA	174	383	310	312
ORIHUELA	218	370	208	255
VALENCIA	731	712	770	828

Figure 9: geographical distribution of the sample

Figure 10: predicted probabilities for sons with Class 2 (Intermediate) background by age

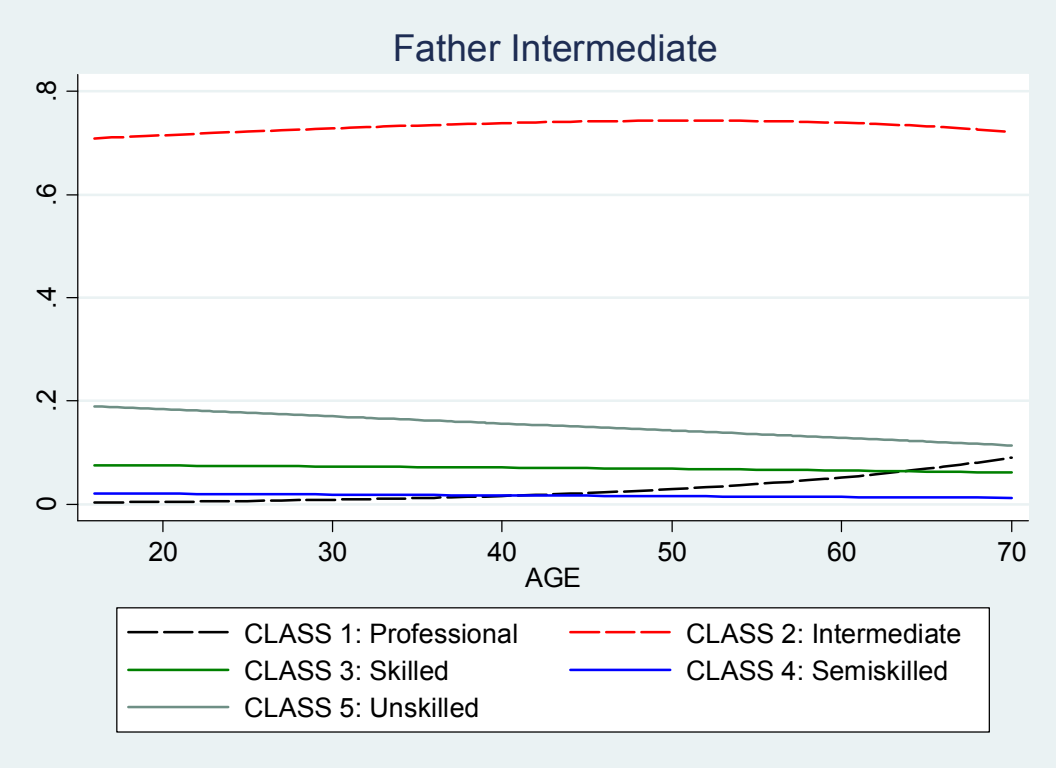


Figure 11: predicted probabilities for sons with Class 3 (Skilled) background by age

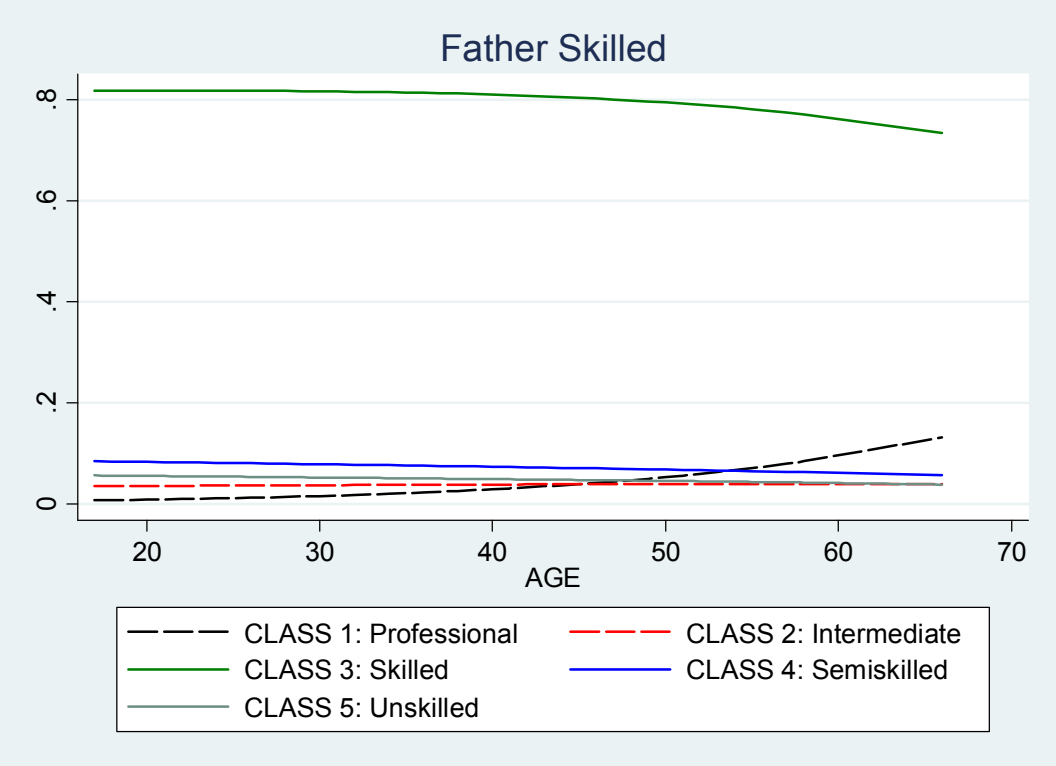


Figure 12: predicted probabilities for sons with Class 4 (Semiskilled) background by age

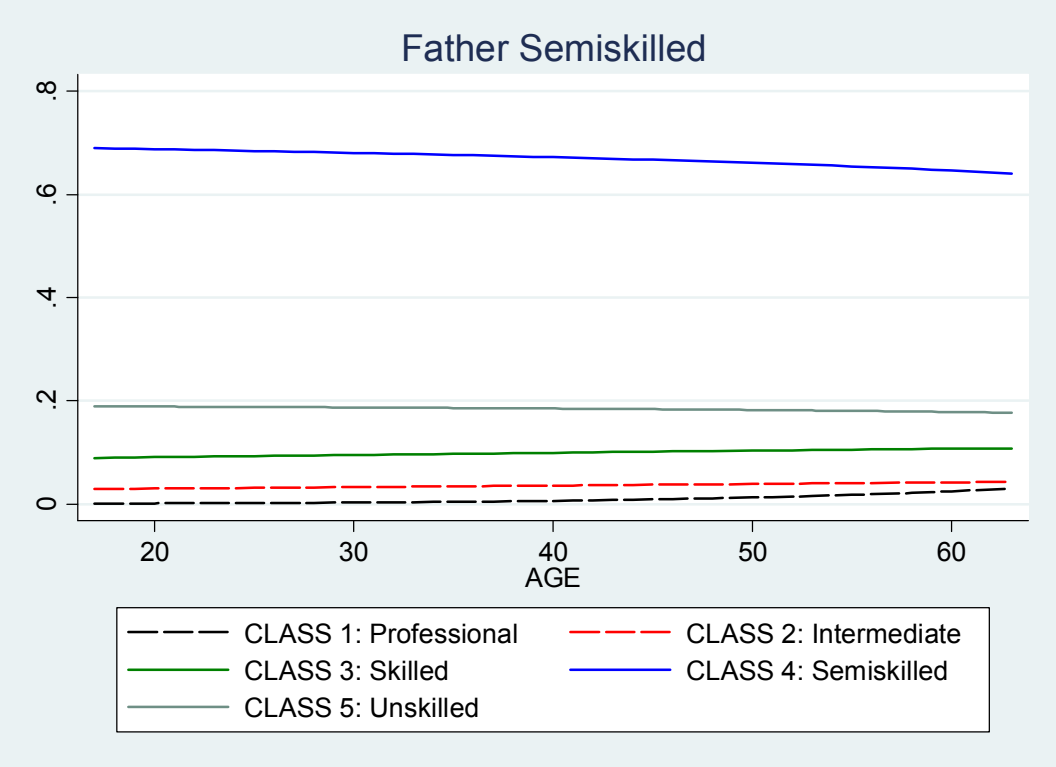


Figure 13: predicted probabilities for sons with Wealthy background by age

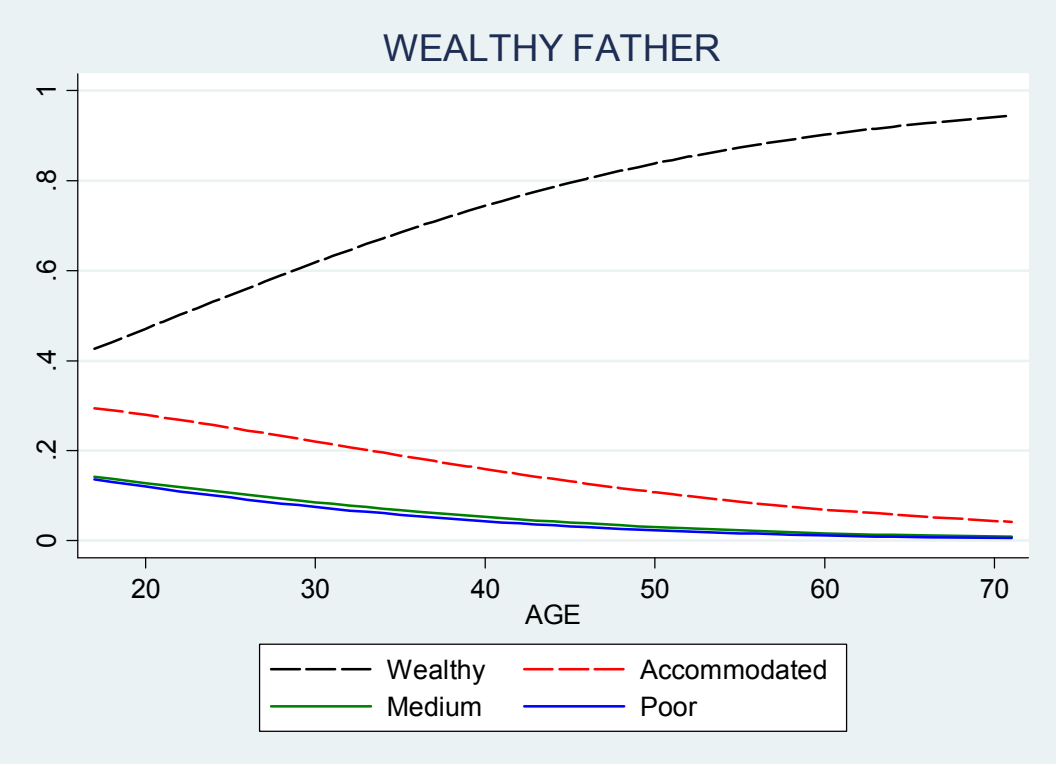


Figure 14: predicted probabilities for sons with Accommodated background by age

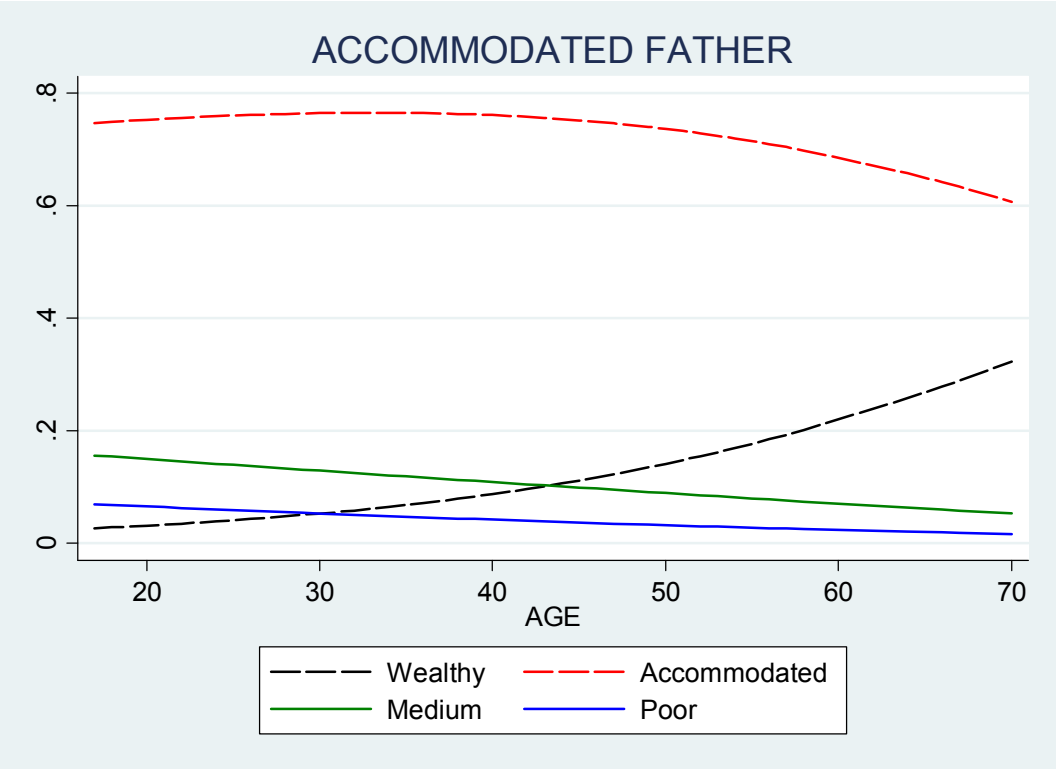


Figure 15: predicted probabilities for sons with Medium background by age

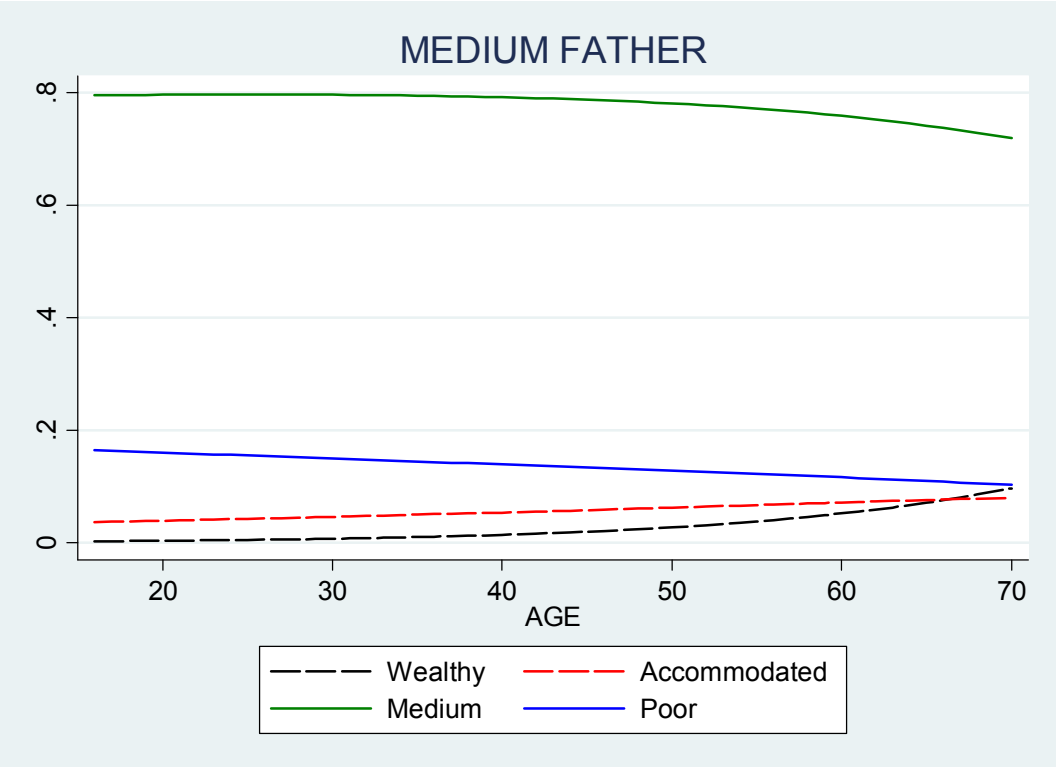


Figure 16: predicted probabilities for sons with Poor background by age

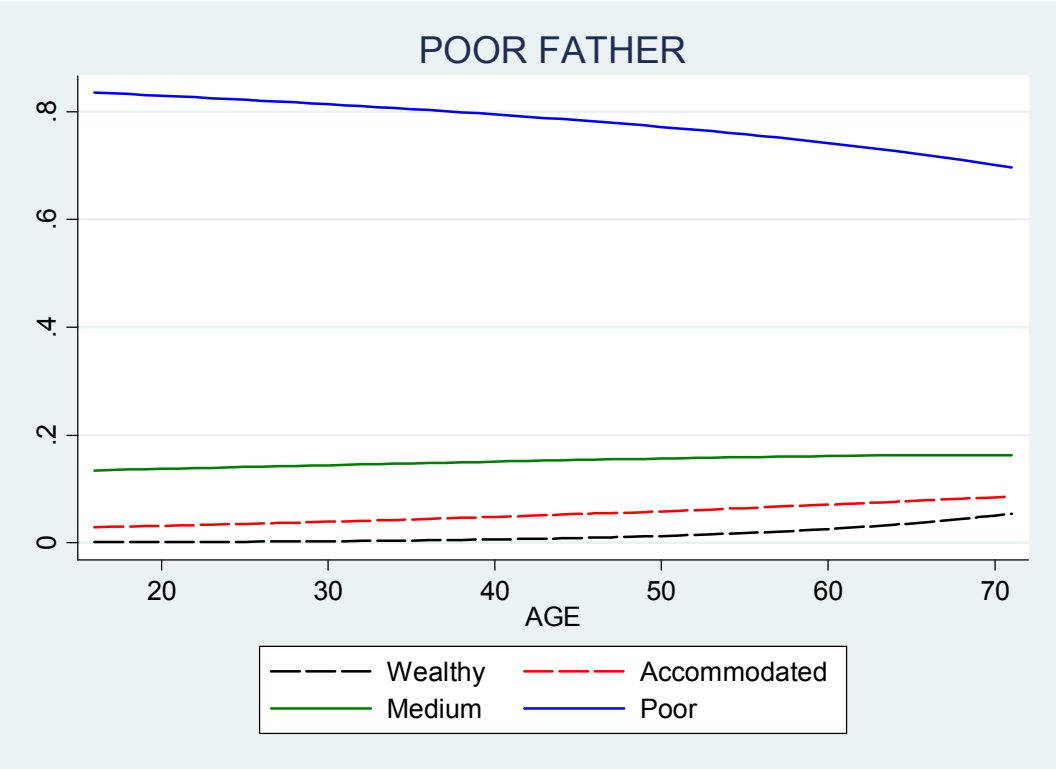


Table 16: transition matrix in Valencia, 1840-70 (Full sample)

			Father's class		
	1, Professional	2. Intermediate	3. Skilled	4. Semiskilled	5. Unskilled
Son's class	%				
1. Professional	66	1	1	0	0
2. Intermediate	11	73	4	3	5
3. Skilled	11	7	82	10	5
4. Semiskilled	3	2	8	68	3
5. Unskilled	9	17	5	19	87

Table 17: transition matrix in Valencia. 1840-70 (Grooms aged +35)

			Father's class		
	1. Professional	2. Intermediate	3. Skilled	4. Semiskilled	5. Unskilled
Son's class	%				
1. Professional	86	2	4	0	1
2. Intermediate	7	71	1	7	4
3. Skilled	5	6	78	12	7
4. Semiskilled	0	3	16	78	5
5. Unskilled	2	18	1	3	83